A MODIFIED CRILE TUBE FOR THE DIRECT TRANSFUSION OF BLOOD.

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The direct transfusion of blood, as described by Dr. Crile,[1] may be at times an operation of emergency, when it is impossible to get an assistant familiar with its technic. Under such conditions a surgeon may find it very difficult to slip the vessels over the anastomosis tube. The awkwardness experienced by unaccustomed assistants in maintaining a steady and equal traction on the blood-vessel while drawing it over the tube, and in holding it in place for ligation in the grooves, has led me to devise a tube which a single operator can use if the occasion demands it.

Fig. 1.

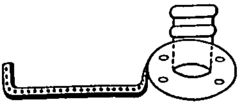
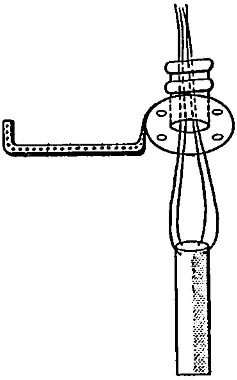


Fig. 2.



Drawings three times actual size.

It is the same as Dr. Crile's, with the addition of a wide flange at the base. This flange is pierced by four holes, dividing its circumference equally (see Fig. 1).

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[1] Annals of Surgery for September, 1907.

The technic of the operation may be divided as follows, after having dissected out the vessels to be used:

1. Clamp gently the vein with one of the "Crile" clamps. Sever it cleanly as far as possible from the clamp. Flush open the lumen with warm saline, and, if necessary, dilate it further with mosquito hæmostats.

Fig. 3.

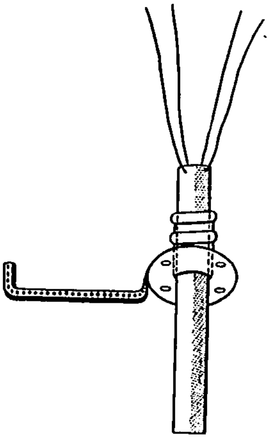

Fig. 4.

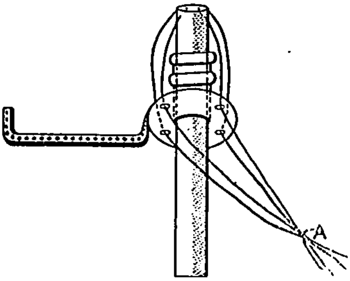

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Fig. 5.

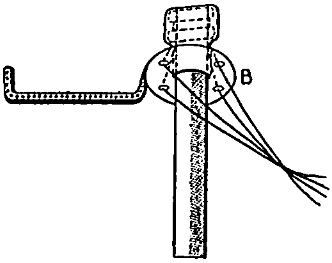
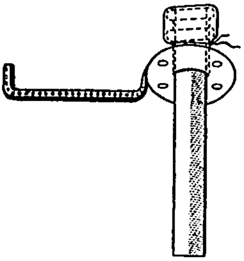


Fig. 6.



Drawings three times actual size.

Take four intestinal needles threaded with fine linen, knotted at the end. Going from within the lumen out, divide its circumference equally with the four threads. Then bunch the needles, and pass them through the tube (as in Fig. 2). Using the needles as a tractor, draw the vein through the tube (see Fig. 3).

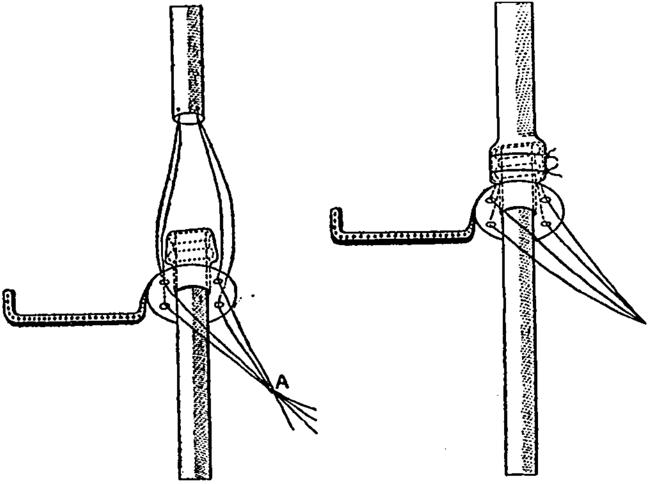
2. Separate the needles and run them through their corresponding

openings in the large flange at the base. Take up the slack, and clamp all together at (A) with an ordinary hæmostat (see Fig. 4).

3. Using the hæmostat as a tractor, you get equal traction on each of the threads. The passage of the threads through the holes in the flange, makes this traction in the direction desired. In this manner, the vein is reverted over the tube, and drawn up above the second groove (see Fig. 5). When in place it is held there by taking a second hæmostat and clamping all four threads close up behind the wide flange. Then the ligature is placed around the vein securing it in the second groove, and the traction threads are removed by cutting the knots (see Fig. 6).

Fig. 7.

Fig. 8.



Drawings three times actual size.

5. Clamp and sever the artery. Flush open its lumen, and gently dilate it with mosquito hæmostats if necessary. Take four needles threaded as before [I use the same ones]. This time you pierce the walls of the vessel from without in to the lumen, leaving the knots on the outside. Pass the needles through their corresponding openings in the flange, and, after taking up the slack, clamp together at (A) as before (see Fig. 7). Using the clamp as a tractor, draw the artery on over the reverted vein above the first groove. Hold it in place by means of a second clamp behind the flange, as with the vein, and place the ligature around the artery in the first groove (see Fig. 8).

6. The anastomosis being now completed, the Crile clamps on the vein and the artery are removed, and, if a plentiful supply of warm saline has been used throughout the entire operation, the transfusion is accomplished.